



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/008,091	11/09/2001	Randall R. Stewart	CISCP226/4185	5000

22434 7590 03/09/2005

BEYER WEAVER & THOMAS LLP
P.O. BOX 70250
OAKLAND, CA 94612-0250

EXAMINER

SALL, EL HADJI MALICK

ART UNIT	PAPER NUMBER
----------	--------------

2157

DATE MAILED: 03/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/008,091

Applicant(s)

STEWART ET AL.

Examiner

El Hadji M Sall

Art Unit

2157

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 January 1956.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) _____ is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-56 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 11/25/2002.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date, _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

1. **DETAILED ACTION**

This action is responsive to the application filed on November 9, 2001. Claims 1-56 are pending. Claims 1-56 represent methods and apparatus for using SCTP to provide mobility of a network device.

2. ***Claim Rejections - 35 USC § 102***

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. Claims 1-56 are rejected under 35 U.S.C. 102(e) as being unpatentable over Turina et al. U.S. 6,826,198.

Turina teaches the invention as claimed including signaling transport protocol extensions for load balancing and server pool support (see abstract).

As to claims 1, 27, 51, 52, 53, 54, 55 and 56, Turina teaches in a first network device and a second network device, a method, a first network device adapted, a computer-readable medium and a second network device adapted for modifying an SCTP association between the first network device and a second network device, the SCTP association including a first set of IP addresses associated with the first network device and a second set of IP addresses associated with the second network device, the method comprising:

- a processor (column 4, lines 17-19).

- a memory, at least one of the processor and the memory being adapted for:
establishing the SCTP association between the first network device and the second network device (figure 3); and

- sending an SCTP configuration message from the first network device to the second network device, the configuration message indicating a modification to be made to the SCTP association, thereby enabling the SCTP association to be modified without disconnecting an existing session (column 8, lines 2-5, Turina discloses a signaling message exchange between the signaling SCTP source node and a signaling SCTP target node; column 2, line 62 – column 3, line 2, Turina discloses the signaling connection control protocol (SCCP) may be changed during operation without affecting the upper user layer; column 6, lines 61-65, Turina discloses members of a server pool may be added or removed at any time without server interrupt. SCTP supports multiple IP addresses from the same host, and treat the data streams from these addresses as one session. It does not require strict order of delivery like. If there is modification in one data stream, the others are allowed to continue).

As to claim 2, Turina teaches the method as recited in claim 1, wherein sending the SCTP configuration message from the first network device to the second network device is performed when a new IP address is assigned to the first network device (column 6, lines 32-41, Turina discloses each SCTP endpoints assigned to receive SCTP user protocol data packets).

As to claim 3, Turina teaches the method as recited in claim 1, wherein sending the SCTP configuration message from the first network device to the second network device is performed when a new network interface card is added to the first network device (column 3, lines 6-10, Turina discloses mapping data interface unit adapted to distribute signaling association via the SCTP).

As to claims 4 and 31, Turina teaches the method as recited in claims 1 and 27, further comprising:

receiving an SCTP acknowledgement message from the second network device acknowledging receipt of the SCTP configuration message (column 10, lines 15-22, Turina discloses a connection acknowledgement message then follows the same SCTP association linked on the source node and the target node).

As to claims 5 and 32, Turina teaches the method as recited in claims 4 and 31, wherein the SCTP acknowledgement message further acknowledges that the SCTP association has been modified corresponding to the SCTP configuration message (column 10, lines 20-22, Turina discloses a connection acknowledgement message follows the same SCTP association linked on the source node and the).

As to claims 6 and 33, Turina teaches the method as recited in claims 4 and 31, wherein the SCTP acknowledgement message comprises an SCTP packet including a chunk having a chunk type associated with the SCTP acknowledgement message (column 6, lines 26-31, Turina discloses the SCTP provides SCTP association set-up and shut-down, data acknowledgement, packet validation and path management).

As to claims 7 and 34, Turina teaches the method as recited in claims 1 and 27, wherein the first network device is a Mobile Node supporting Mobile IP (column 8, lines

21-32, Turina discloses the mobile of servers supports mobile terminals, and the name translation is supported in the area of the IP network).

As to claims 8 and 35, Turina teaches the method in claim 1, wherein the SCTP configuration message indicates that a specified IP address is to be added to the first set of IP addresses in the SCTP association (column 6, lines 32-36, Turina discloses each SCTP endpoint has a list of transport addresses assigned to multiple IP addresses).

As to claims 9 and 37, Turina teaches the method as recited in claims 1 and 27, wherein the SCTP configuration message indicates that a specified IP address is to be established as a primary address in the first set of IP addresses in the SCTP association via which to send and receive messages (column 3, lines 61-67, Turina discloses a fault management unit adapted to detect an inoperative signaling transport address in a peer signaling association and to select another signaling transport address).

As to claim 10, Turina teaches the method as recited in claim 9, wherein sending the SCTP configuration message from the first network device to the second network device is performed when the first network device determines that the specified IP address provides a better signal than the first set of IP addresses that were previously in the SCTP association (column 8, lines 1-5, Turina discloses each SCTP points to a plurality of IP addresses that may be used for signaling message exchange between the signaling source node and the signaling target node).

As to claim 11, Turina teaches the method as recited in claim 9, wherein the first network device is a Mobile Node, and wherein the specified IP address is an IP address of a network location to which the Mobile Node has roamed (column 8, lines 21-32, Turina discloses the pool of servers supports mobile terminal originating signaling

traffic, and network element MSC1 or RNC1 may use a destination name for exchange of signaling traffic).

As to claims 12 and 39 Turina teaches the method as recited in claims 1 and 27, wherein the SCTP configuration message indicates that a specified IP address is to be removed from the first set of IP addresses in the SCTP association (column 6, lines 61-65, Turina discloses members of a server pool can be removed at any time without server interrupt).

As to claim 13, Turina teaches the method as recited in claim 12, wherein sending the SCTP configuration message from the first network device to the second network device is performed when the first network device determines that the specified IP address does not provide an adequate signal (column 8, lines 52-59, Turina discloses hosts for the name mapping are provided in the IP network, as soon as on host is inoperative due to failure).

As to claim 14, Turina teaches the method as recited in claim 12, wherein the first network device is a Mobile Node, and wherein the specified IP address is an IP address of a network location associated with a prior network location of the Mobile Node (column 8, lines 21-32, Turina discloses the pool of servers supports mobile terminal originating signaling traffic, and network element MSC1 or RNC1 may use a destination name for exchange of signaling traffic).

As to claims 15 and 40, Turina teaches the method as recited in claims 1 and 27, wherein the SCTP configuration message includes at least one of an ADD message indicating that a first IP address is to be added to the first set of IP addresses, a SET PRIMARY message indicating that a second IP address is to be established as a primary address in the first set of P addresses via which to send and receive messages, and a REMOVE message indicating that a third IP address is to be removed from the first set of IP addresses in the SCTP association (column 6, lines 61-65, Turina

discloses members of a server pool can be removed at any time without server interrupt).

As to claims 16 and 41, Turina teaches the method as recited in claims 15 and 40, wherein the first address is the second address (column 10, lines 19-22, Turina discloses the same SCTP follows the connection acknowledgement which is both linked on the signaling source node and the signaling target node).

As to claims 17 and 42, Turina teaches the method as recited in claims 15 and 40, wherein an order is specified for performing at least one of the ADD message, the PRIMARY message, and the REMOVE message (column 6, lines 61-65, Turina discloses members of a server pool can be added or removed at any time without server interrupt).

As to claim 18, Turina teaches the method as recited in claim 1, wherein the first network device is a Mobile Node, the method further comprising:

roaming to a network location (column 2, lines 31-34, Turina discloses receiving a signaling target node name from the source node to map the signaling target node name into a peer signaling);

obtaining a new IP address associated with the new network location (column 6, lines 32-41, Turina discloses each SCTP endpoints assigned to receive SCTP user protocol data packets);

wherein the SCTP configuration message indicates that the new IP address is to be added to the first set of IP addresses (column 3, lines 6-10, Turina discloses mapping data interface unit adapted to distribute signaling association via the SCTP).

As to claim 19, Turina teaches the method as recited in claims 18, wherein the SCTP configuration message further indicates that one of the IP addresses in the first

set of IP addresses is to be removed from the first set of IP addresses (column 6, lines 61-65, Turina discloses members of a server pool can be removed at any time without server interrupt).

As to claims 20 and 45, Turina teaches the method as recited in claims 19 and 44, wherein the one of the IP addresses to be removed from the first set of IP addresses is a Home Address associated with the Mobile Node (column 8, lines 21-32, Turina discloses the pool of servers supports mobile terminal originating signaling traffic, and network element MSC1 or RNC1 may use a destination name for exchange of signaling traffic).

As to claims 21 and 46, Turina teaches the method as recited in claims 18 and 43, wherein the SCTP configuration message further indicates that the new IP address is to be a primary address via which the Mobile Node is to send and receive packets (column 6, lines 32-41, Turina discloses each SCTP endpoints assigned to receive or originate SCTP user protocol data packets).

As to claim 22, Turina teaches the method as recited in claim 18, wherein the first set of IP addresses is associated with a single network interface card (column 8, lines 33-35, Turina discloses the usual protocol stack needs only one interface from the user adaptation layer).

As to claims 23 and 47, Turina teaches the method as recited in claims 1 and 27, wherein the SCTP configuration message comprises one or more SCTP packets (column 2, lines 223-27, Turina discloses a signaling control layer SCTP of the protocol stack on top of a packet transfer network IP for exchange of signaling data).

As to claims 24 and 48, Turina teaches the method as recited in claims 1 and 27, the method further comprising:

appending a chunk to an SCTP packet, the chunk including the SCTP configuration message (column 6, lines 26-31, Turina discloses the SCTP provides SCTP association set-up and shut-down, data acknowledgement, packet validation and path management).

As to claims 25 and 49, Turina teaches the method as recited in claim 24, wherein the chunk comprises a chunk type associated with the SCTP configuration message (column 6, lines 26-31, Turina discloses the SCTP provides SCTP association set-up and shut-down, data acknowledgement, packet validation and path management; column 3, lines 40-43, Turina discloses the target node name resolution unit is of a client/server type).

As to claims 26 and 50, Turina teaches the method as recited in claims 24 and 48, wherein the chunk composes one or more parameters, each of the parameters having a value and an associated parameter type selected from the group consisting of ADD indicating that an IP address indicated by the value is to be added to the first set of addresses, REMOVE indicating that the IP address is to be removed from the first set of IP addresses, and SET PRIMARY indicating that the IP address is to be established as a primary address via which the first network device is to send and receive messages (column 6, lines 61-65, Turina discloses members of a server pool can be removed at any time without server interrupt).

As to claim 28, Turina teaches the method as recited in claim 27, further comprising:

modifying the SCTP association in response to the configuration message (column 5, lines 62-64, Turina discloses the layer 4 user to use the host name based addressing initiating a new signaling transaction).

As to claim 29, Turina teaches the method as recited in claim 28, wherein the SCTP configuration message indicates a lookup address associated with the SCTP association, the method further comprising:

obtaining the association (column 3, lines 27-33, Turina discloses the target node name resolution unit is adapted to map a destination name into the peer signaling association according to a specified algorithm or a table lookup technique).

As to claim 30, Turina teaches the method as recited in claim 29, further comprising:

verifying the association using the lookup address (column 3, lines 32-33, Turina discloses a table lookup which can be used to verify association).

As to claims 36 and 38, Turina teaches the method as recited in claim 35, further comprising:

sending a message to one of the first set of P addresses in the SCTP association (column 8, lines 2-5, Turina discloses a signaling message exchange between the signaling SCTP source node and a signaling SCTP target node).

As to claim 43, Turina teaches the method as recited in claim 27, wherein the first network device is a Mobile Node supporting Mobile IP and the second network device is a Correspondent Node (column 8, lines 21-32, Turina discloses the mobile of servers supports mobile terminals, and the name translation is supported in the area of the IP network).

As to claim 44, Turina teaches the method as recited in claim 43, wherein the SCTP configuration message further indicates that one of the IP addresses in the first set of IP addresses is to be removed from the first set of P addresses. (column 6, lines 61-65, Turina discloses members of a server pool can be removed at any time without server interrupt).


4. Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to El Hadji M Sall whose telephone number is 571-272-4010. The examiner can normally be reached on 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ario Etienne can be reached on 571-272-4001. The fax phone number for the organization where this application or proceeding is assigned is 571-273-4010.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

El Hadji Sall
Patent Examiner
Art Unit: 2157



ARIO ETIENNE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100